

RODIONOV, Y. A.

"Microclimatic Conditions in Pre-fab Finnish Homes,"
Gig. i San., No. 8, 1949.
Mbr., Moscow Oblast Sci. Res. Hygiene and Sanitation Inst., -cl949-.

L 10277-66 EWT(d)/FSS-2

ACC NR: AP5026862

SOURCE CODE: UR/0108/65/020/011/0043/0049

AUTHOR: Rodionov, Ya. G. (Active member); Shushin, V. M. (Active member)

ORG: Scientific and Technical Society of Radio Engineering and Electro-communication (Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi)

TITLE: One variant of the frequency filtration method used for suppressing undesirable signals

SOURCE: Radiotekhnika, v. 20, no. 11, 1965, 43-49

TOPIC TAGS: signal noise separation, radio communication

ABSTRACT: Use of the conventional method of filtering out undesirable signals often requires unwieldy changes in communication-channel parameters. Hence, a joint method of frequency rejection and noise-band compensation is suggested ("selective compensation"). In parallel with a certain line unit 1, a compensating

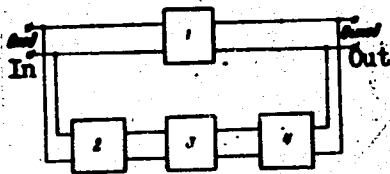
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UDC: 621.372

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ACC NR: AP5026862



circuit consisting of frequency filter 2, phase shifter 3, and adjustable amplifier 4, is connected. When this compensating circuit is properly tuned, most of the noise components pass to the output with a near- π phase shift canceling out the channel noise. Formulas for the evaluation of efficiency of the

selective compensation of pulse-type radio noise are developed, as well as the relations between residual-noise energy and the compensating-filter passband. The method is recommended for protecting the multiplexed overhead lines from the radio noise whose spectrum is narrower than that of the desirable signal. Orig. art. has: 5 figures and 28 formulas.

SUB CODE: 17 / SUBM DATE: 04Jun63 / ORIG REF: 002

OC
Card 2/2

LODICHOV, Ya. G.

"Experimental Study of an FM Receiver With Controlled Resonant Frequency,"
pp 69-80, ill, 5 ref

Abst: The author gives the results of experimental studies with a short description of the methods used. It is concluded that this receiver actually provides an increased noise-free stability in the reception of a useful signal with the retention of a comparatively high quality of reproduction of the latter.

SOURCE: Trudy Gor'kovskogo Politekh. In-ta im. A. A. Zhdanova Min. Vyssh. Obrazov. Radiotekhn. Fak. (Works of the Gor'kiy Polytechnic Institute im. A. A. Zhdanov of the Ministry of Higher Education, Radio Engineering Faculty), Volume 12, No 2, Gorky, 1956

Sum 1854

AGEYEV, Dmitriy Vasil'yevich; RODIONOV, Yaroslav Grigor'yevich; SHAMSHUR,
V.I., red.; VORONIN, K.P., tekhn.red.

[FM radio receivers with a discriminator and oscillatory circuit
arrangement] ChM radiopriem so slediaschhei nastroikoi. Moskva,
Gos.energ.izd-vo, 1958. 131 p. (MIRA 12:3)
(Radio--Receivers and reception)

69826

6.7300 (1524)
6.9416
6.9800

S/111/61/000/001/001/002
B107/B212

AUTHORS: Gorbachev, A. A., Candidate of Technical Sciences, and
Rodionov, Ya. G., Candidate of Technical Sciences (Gor'kiy)

TITLE: Method of increasing the interference immunity of multi-
channel systems used for high-frequency telephony

PERIODICAL: Vestnik svyazi, no. 1, 1961, 13-14

TEXT: A unit that is able to suppress periodic pulse interferences in multi-channel systems of high-frequency telephony is briefly described. The unit has been developed by the Gor'kiy Scientific Research Institute. It works on the principle of eliminating the signal and also the interfering pulse. If the duration of the short interruptions does not amount to more than 35%, then the conversation is still well intelligible, even under adverse conditions, i.e., if the interruptions have a frequency of 300-888 cps. The unit consists mainly of three subsequent stages. 1) The first stage separates the interfering pulse from the mixture of signal and interference, and is used to control all other

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B107/B212

Method of increasing the interference...

stages. This stage consists of a tuned amplifier which is tuned to the carrier frequency of the interferences, and its resulting band width is such that the interference amplitude is amplified maximally compared to the signal. 2) The second stage delays the interfering pulse by an interval which roughly corresponds to its period, and a control pulse is generated, which corresponds to the duration of the interference pulse. The stage consists of a number of multi-vibrators which are cleared by pulses of stage 1. 3) The third stage is blocked for the duration of the control pulse. Every pulse is used to eliminate the following pulse. Fig. 2 shows a simplified circuit diagram, and the mode of operation is explained in its legend. The unit has been tested with communication systems of the type 8-12 (V-12) at three amplifier stations. The input has been applied to the socket of the filter K-33 (K-33), and the output to the control grid of the second amplifier tube of the element BY (VU) belonging to the system V-12. It has been found that the psophometric interference voltage will drop by a factor of 3 - 25. Transient interferences and non-linear distortions of the voice signal are much higher due to the method applied, but intelligibility is maintained even

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39826

S/111/61/000/001/001/002
B107/B212

Method of increasing the interference...

under adverse conditions. There are 2 figures.

ASSOCIATION: Gor'kovskiy NII (Gor'kiy Scientific Research Institute)

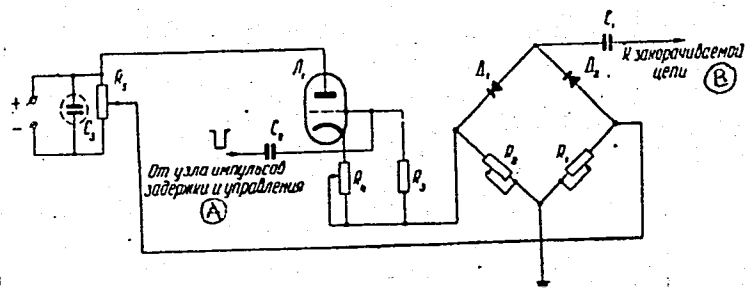


Рис. 2

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B107/B212

Method of increasing the interference...

Legend to Fig. 2: A - from stage 2; B - to short-circuited chain; main component of the stage is a two-side diode limiter consisting of diodes Δ_1 and Δ_2 . The diode limiter is connected to the receiver part over a tuning capacitor C_1 . Between two interference pulses, the limiter is blocked by the current passing through resistors R_1 and R_2 . The current is controlled by R_4 ; tube \mathcal{J}_1 is used to open and close the circuit. A control pulse will block the tube when an interference pulse has been received; the limiter opens, and due to its small resistance, the group tract of the system is short-circuited. Tube \mathcal{J}_1 opens again when the pulse stops, and the limiter is closed again. A bell-shaped pulse is found to be best for a blocking pulse. X

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RODIONOV, Ya.G.

Optimum band-pass of a filter in a receiving system for frequency modulated signals with follow-up tuning. Radiotekhnika 15 no.9: 47-53 S '60. (MIRA 13:9)

1. Deystvitel'nyy chlen Nauchno-tekhnicheskogo obshchestva radiotekhniki i elektrosvyazi im. A.S.Popova.
(Electric filters) (Radio frequency modulation--Receivers and reception)

RODIONOV, Ya.G., kandidat tekhnicheskikh nauk.

Experimental investigation of an FM receiver with controlled
resonant frequency. Trudy GPI 12 no.2:69-80 56. (MLRA 10:5)
(Radio frequency modulation)

RODIONOV, Ya.G.

Concerning the action of weak harmonic interference of FM reception
with follow-up tuning. Radiotekhnika 16 no.11:34-38 # '61.
(MIRA 14:10)

1. Deystvitel'nyy chlen Nauchno-tekhnicheskogo obshchestva
radiotekhniki i elektrosvyazi imeni Popova.
(Radio--Receivers and reception)

RODIONOV, Ya. G.

Rodionov, Ya. G. - "The Development and Investigation of an FM Receiver with Controllable Resonance Frequency." Min Higher Education. Gor'kiy Polytechnic Inst imeni A. A. Zhdanov. Chair of Radio Receiving Equipment. Gor'kiy, 1950 (Dissertation for the Degree of Candidate in Technical Sciences).

So: Knizhnaya Letopis', No. 10, 1950, pp 116-127

6(4)

SOV/112-59-4-7964

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 4, p 222 (USSR)

AUTHOR: Rodionov, Ya. G.

TITLE: Developing an FM Receiver With a Controlled Resonant Frequency

PERIODICAL: Tr. Gor'kovsk. politekhn. in-ta, 1957, Vol 13, Nr 1, pp 95-106

ABSTRACT: An FM receiver with a controlled resonant frequency for high-fidelity low-noise reception is considered. The investigated part of the receiver comprises a controlled-resonant-frequency stage with its anode load in the form of a narrow-band circuit whose resonant frequency is controlled by a parallel reactance tube and by a frequency detector; the latter's output, via a special coupling circuit, is connected to the reactance-tube input. Principal considerations about selecting the reactance tube, frequency detector, and coupling circuit are formulated. The principal circuit diagram is described; graphs, nonlinear-distortion characteristics, and an equivalent frequency characteristic are presented. The new controlled-resonant-frequency scheme

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SOV/112-59-4-7964

Developing an FM Receiver With a Controlled Resonant Frequency

of the receiver is not complicated, as compared to a conventional receiver scheme; it includes only two additional tubes. Estimated characteristics show that a receiver with the above scheme would ensure a high-fidelity low-noise reception of FM signals.

M.V.N.

Card 2/2

RODIONOV, Ya-G

6(4); 9(8)

PHASE I BOOK EXPLOITATION

SOV/2669

Ageyev, Dmitriy Vasil'yevich and Yaroslav Grigor'yevich
Rodionov

ChM radiopriyem so sledyashchey nastroykoy (FM Radio Reception
With Automatic Tuning) Moscow, Gosenergoizdat, 1958. 131 p.
21,000 copies printed.

Ed.: V.I. Shamshur; Tech. Ed.: K.P. Voronin.

PURPOSE: This book is intended for radio engineers, instructors
and students of radio-engineering departments of vuzes.

COVERAGE: The authors present the results of theoretical and
experimental studies of FM reception conducted at Gor'kiy
Polytechnic Institute imeni A.A. Zhdanov in 1951-1954.
They describe an FM receiver with a resonant circuit in the
pre-detector stage. They also discuss the results of testing
and show that the introduction of two additional tubes in
the receiver circuit considerably increases interference
stability with relatively little change in receiver fidelity.

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FM Radio Reception With Automatic Tuning (Cont.) SOV/2669

They also state that the gain in stability during pulse interferences is equivalent to increasing the power of an FM transmitter 3.6 times or equivalent to almost twice the area served by FM broadcast. Chapters 1 and 2 were written by D.V. Ageyev and Chapters 3 and 4 by Ya.G. Rodionov. No personalities are mentioned. There are 2 references, both Soviet.

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FM Radio Reception With Automatic Tuning (Cont.) SOV/2669

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AVAILABLE: Library of Congress

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JP/mg
12-1-59

GORBACHEV, A.A., kand.tekhn.nauk (g.Gor'kiy); RODIONOV, Ya.G., kand.-
tekhn.nauk (g.Gor'kiy)

Method for increasing the interference rejection of multichannel
high-frequency telephone systems. Vest. svyazi 21 no.1:13-14
Ja '61. (MIRA 15:5)

(Telephone)

RODIONOV, Ya.S.; GUBENKO, V.S.

Possibilities of a quantitative forecast of the state of the
ionosphere. Elektrosviy: 15 no.12:64-66 D :61.
(MIRA 14:12)

(Ionosphere)

RODIONOV, Ya.S.

Autocorrelation characteristics of critical frequency fluctuations and ionization density. Geomag. i aer. 3 no.5:985-990 S-0 '63. (MIRA 16:11)

Rodionov, Ya. S.

PHASE I BOOK EXPLOITATION SOV/5743

14

Akademiya nauk SSSR. Mezhdunarodnyy komitet po provedeniyu
Mezhdunarodnogo geofizicheskogo goda. V. razdel programy IGG:
Ionosfera.

Issledovaniya ionosfery; sbornik stat'ey (Ionospheric Researches;
Collected Articles. No. 3) Moscow, Izd-vo AN USSR, 1960.
100 p. 2,000 copies printed.

Recp. Ed.: N. V. Mednikov, Candidate of Physics and Mathematics;
Ed.: L. A. Trofimova; Tech. Ed.: T. V. Polyakova.

PURPOSE : This IGY publication is intended for geophysicists,
astrophysicists, and other scientists concerned with the
ionosphere and radio atmospherics.

COVERAGE: The collection of articles contains the results of
investigations on the ionosphere and radio atmospherics, based
chiefly on IGY observational data from USSR stations. The
articles may be grouped into the three following categories:

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Ionospheric Researches; Collected (Cont.) SOV/5743

1) studies of the morphology and physics of both quiet and perturbed ionospheres; 2) methodology of evaluating absorption and drifts in the ionosphere; and 3) questions on the use of ionospheric observations for practical purposes. No personalities are mentioned. English abstracts and references follow each article.

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Foreword

Shapiro, B. S. An Investigation of the Distribution of Ionization With Height 5

Kessenikh, V. N. Certain Peculiarities in the Geographic Distribution of the Maximum Electron Concentration in the F-2 Layer Over the Urals, Siberia, the North Caucasus, and Soviet Central Asia (1957-1958) 7

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Ionospheric Researches; Collected (Cont.) SOV/5743

Kerblay, T. S., and Ye. M. Kovalevskaya. Correlation of foF2 With Solar Activity Indices 22

Driatskiy, V. M. Processes in the Lower Ionosphere in High Latitudes During the Solar Flare of February 23, 1956 27

Fel'dshteyn, Ya. I. The Nocturnal E-Layer According to Observations at the Dikson Island Observatory 34

Pankratova, N. S. Irregular Phenomena in the F-Region of the Ionosphere According to Observations at the Dikson Island Observatory 40

Cherenkova, Ye. P. Certain Regularities in the Behavior of the Lower Ionosphere Over Dikson Island 51

Gorbushina, G. N. On the Use of Single Reflections for Evaluating Absorption in the Ionosphere According to Observations at Dikson Island 60

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Seruin, O. N., and Ya. I. Fel'dshteyn. Nondeviating Absorption of Radio Waves in the Auroral Zone		66
Gusev, V. D., and S. F. Mirkotan. On Certain Anomalies During an Investigation of Ionospheric Drifts		77
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Rodionov, Ya. S. A Possible Method of Determining Effective Recombination Coefficients and the Rate of Ionization in the Ionosphere		95
Zakharov, V. I., and Z. K. Shibayev. Effective Recombination		

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Ionospheric Researches; Collected (Cont.)

SOV/5743

Coefficient in the Ionosphere According to Observations
at Dikson Island Observatory

100

AVAILABLE: Library of Congress

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L 10010-63
 ACCESSION NR: AP3000149
 BDS/EXT(1)--AFFTC--RB/PT-2
 S/0141/63/006/002/0246/0256
 55
 53
 AUTHOR: Kalinin, Yu. K.; Rodionov, Ya. S.
 TITLE: Simulating the propagation of ground waves in the centimeter band
 SOURCE: Izvestiya vysshih uchebnykh zavedeniy radiofizika, v. 6, no. 2, 1963
 246-256
 TOPIC TAGS: ground-wave simulator, centimeter-wave simulator

ABSTRACT: The simulator used for ground-wave experiments at 3.2 cm comprised a 460 x 200-mm vinyl box filled with dry sand, a 29 x 13-mm open transmitter waveguide, and a 22 x 10-mm open receiver waveguide; the oscillator used was described by Ye. L. Faynberg (Propagation of radio waves along the Earth's surface, Academy of Sciences, Moscow, 1961), and the receiver was represented by a detector circuit terminated with a voltmeter. Dry sand was used as a "poor" conductor, and metal plates, as a "good" one. The following combinations were investigated: sand and metal surfaces separately; sand section plus metal section; sand-metal-sand (simulating airstrips); sand-metal with an oblique interface; various antenna heights. Some experiments were compared with

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theoretical formulae, and good agreement was found. On this basis the simulator is recommended for both the scientific and the educational applications. "The authors are thankful to Ye. I. Faynberg for discussing the results of the project and for the valuable advices. They also express their best thanks to S. V. Borisov who took part in the experimentation." Orig. art. has: 10 equations and 9 figures.

ASSOCIATION: none

SUBMITTED: 05Feb62

DATE ACQ: 12Jun63

ENCL: 00

SUB CODE: CO

NR REF SOV: 010

OTHER: 001

Card

2/2

31206

S/106/61/000/012/010/010
A055/A127

9, 9110

AUTHORS: Rodionov, Ya. S., Gubenko, V. S.

TITLE: On the possibility of a numerical prediction of the ionosphere state

PERIODICAL: Elektrosvyaz', no. 12, 1961, 64 - 66

TEXT: This article deals with the possibility of applying statistical extrapolation to the prediction of the critical frequencies of the F₂ layer some hours in advance. Calculations were made for the ionization density. For the extrapolation of this density a linear operator was used expressing the predicted deviation of the ionization density $\Delta N_{\text{pred}}(t_{\text{pred}})$ in the form of the weighted sum of the observed deviations in the preceding moments $\Delta N(t_k)$:

$$\Delta N_{\text{pred}}(t_{\text{pred}}) = \sum_{k=0}^n A_k \Delta N(t_k).$$

The zero number corresponds to the last observation. The coefficients A_k are found from the system of linear equations:

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On the possibility of a...

$$\sum_{k=0}^n A_k R(t_k, t_m) = R(t_{\text{pred}}, t_m),$$

$$m = 0, 1, 2, \dots, n;$$

where $R(t_i, t_j)$ is the coefficient of correlation between the ionization densities at the moments t_i and t_j . The ratio $\gamma = \frac{\sigma_{\text{pred}}}{\sigma_{\text{pred}}}$ (where σ_{pred} is the RMS deviation of the ionization density from its average monthly value, and σ_{pred} is the RMS deviation of the predicted values of the ionization density from its real values) was chosen as the criterion of the prediction efficiency. If $\gamma < 1$, the chosen extrapolation method gives a positive effect. After reproducing the formulae giving the probability of reflection and the probability of the absence of reflection, respectively, the authors state the practical results of their investigation. To take into account the fact that the process is nonstationary, an operator (i. e. a separate set of coefficients A_k) was calculated for every hour of the day. All the calculations were made for June and December. The time of observation was 18 hours, and the predicted time 6 hours. The results of the calculations (carried out by the electronic digital computer of T. T. Kulikova) show that the statistical extrapolation gives a positive effect for June as well as for December of the years

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S/106/61/000/012/010/010
A055/A127

On the possibility of a...

1948, 1950 and 1953. The index of the extrapolation efficiency for every month was:

$$\chi_{\text{aver.}} = \frac{1}{24} \sum_{i=0}^{23} \chi_i,$$

where χ_i corresponds to the i-th hour of the day. For December, the values of χ_{aver} proved to be somewhat greater than for June. A table reproduced in the article shows the dependence of χ_{aver} on the level of solar activity. This table indicates that there is no clearly defined dependence of χ_{aver} upon the number of sun-spots. There are 3 figures, 2 tables and 4 references: 3 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: Shibata, Watanabe, On a method of short-term prediction of foF₂. "Journ. Radio Res. Lab.", 1960, 7, no. 29. The names of the Soviet-bloc authors or scientists mentioned in the article are: L. N. Lyakhova and T. T. Kulikova.

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06505

SOV/141-58-4-21/26

AUTHOR: Rodionov, Ya.S.

TITLE: The Possibility of Scaling Down a Ground Wave
(K vozmozhnostyam modelirovaniya poverkhnostnoy volny)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika,
1958, Nr 4, pp 160-162 (USSR)

ABSTRACT: The opportunity to study a model of a ground radio wave is attractive because the full scale phenomena is attended by so many variables. The model system is housed in a box measuring 90 x 18 x 25 cm made from stout plywood. The transmitter is a signal generator type 31-I, the sending aerial is an open-ended waveguide, the receiving aerial is a short length of short-circuited guide fitted with a detector, the amplifier following the detector is a type 28-I, the wavelength is 3.2 cm. A number of metal plates are available so that well-conducting parts of the route may be simulated. The major part of the ground path is, however, represented by dry sand. The theory which is relevant to this experiment has been given earlier (Ref 1). Fig 1 shows

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The Possibility of Scaling Down a Ground Wave

the attenuation coefficient and the number of Fresnel zones accommodated in the box. Sufficiently good quantitative results may be obtained with distances D between transmitting and receiving aerials up to 50 cm, that is four Fresnel zones. A comparison of measurements with the theoretical curves plotted in accordance with Ref 1 shows that the effective permittivity of the "ground" is 5.6. The corresponding figure for resistivity is 10^9 c.g.s.e.s.u. units. Fig 2 shows the effect of a metal plate inserted in the middle of the transmission route and Fig 3 the effect of two metal plates, inserted at each end of the system in the immediate neighbourhood of the aerials. It will be seen that experiment only agrees with theory when the amount of highly conducting path is a very small fraction of the total route. The formulae used for calculating the curves are given in the middle of p 161. It is suggested that the method can be used with advantage to investigate the problems involving

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The Possibility of Scaling Down a Ground Wave

reflections and phase shifts in systems where the non-uniformities are not extreme. There are 3 figures and 1 Soviet reference.

SUBMITTED: 22nd April 1958

Card 3/3

AKOPYAN, A.A., kand.tekhn.nauk; KOMAROV, A.N., inzh.; KOLECHITSKIY, Ye.S.,
inzh.; RODIONOV, Ya.V., inzh.; FOTIN, V.P., kand.tekhn.nauk

Testing of 500 kv. air cutouts in the transmission network of the
Volga Hydroelectric Power Station (22d Congress of the CPSU) and
Moscow. Elek.sta.33 no.1:37-45 Ja '62. (MIRA 15:3)

(Electric cutouts--Testing)
(Volga Hydroelectric Power Station(22d Congress of the CPSU))

KALININ, Yu.K.; RODIONOV, Ya.S.

Simulation of ground wave propagation in the centimeter band.
Izv. vys. ucheb. zav.; radiofiz. 6 no.2:246-256 '63.

(MIRA 16:6)

(Radio waves) (Microwaves)

S/196/62/000/013/014/018
E194/E155

AUTHORS:

Akopyan, A.A., Komarov, A.N., Kolehitskiy, Ye.S.,
Rodionov, Ya.V., and Fotin, V.P.

TITLE:

Testing of 500 kV air circuit breakers on the
transmission line between the Volzhskaya GES imeni
XXII s"yezda KPSS-Moskva (Volga GES imeni 22nd
Congress CPSU-Moscow)

PERIODICAL:

Referativnyy zhurnal, Elektrotekhnika i energetika,
no.13, 1962, 19, abstract 13 E 142. (Elektr. stantsii,
no.1, 1962, 37-45)

TEXT:

Tests were made on 500 kV air circuit-breakers type
BBHP-20001-500/2000 (VVNR-20001-500/2000) with a rated current of
2000 A and a breaking capacity of 20 000 mVA, with ten extinction
chambers and with disconnectors having four breaks per phase.
The circuit breaker is developed for a recovery voltage of
3.5 $U_{\text{phase}} = 1160$ kV effective with a maximum formation time of
10 milliseconds. According to test laboratory data the
disconnecter was of reduced electric strength, $2.7 U_{\text{phase}} = 820$ kV
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Testing of 500 kV air circuit ... S/196/62/000/013/014/018
E194/E155

effective instead of 3.5 U phase = 1160 kV effective. The principal object of the test was to determine the possibility of doing without shunting resistors of 3000-2000 ohms on the main extinction chambers. These resistors greatly increase the cost of the circuit breakers (1.5 tons of nichrome for a three-phase set) and according to data from preliminary tests on models, they are effective in reducing the overvoltage only when disconnecting unloaded sections of line accompanied by recurrent restriking of the arc in the circuit breaker. Tests were carried out with the circuit shown in the sketch using a reduced working voltage of 430 kV on the receiving end of the transmission line U8. The main tests were carried out on circuit breaker BB3 (sub-station no.2). Protective spark gaps were used to limit the value of the overvoltage. To assess the part played by the electromagnetic instrument voltage-transformers when disconnecting an unloaded line between substations nos. 2 and 4, all three voltage transformers were connected in the red phase, only two in the green phase and none in the yellow phase. Overvoltages and

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Testing of 500 kV air circuit ... S/196/62/000/013/014/018
E194/E155

currents were recorded at three positions: at substations 4 and 2 and at the hydro-power station. Seventy-eight effects were recorded simultaneously with multi-beam cathode-ray oscillographs and forty by means of electromagnetic oscillographs. The programme of investigations included: a) overvoltage measurements on interruption of electrical transmission under conditions of synchronous operation of the Moscow system and of the hydro-power station (the disconnection was effected by circuit breakers BB₁, BB₃ and BB₄); b) similarly but with synchronous operation of the Moscow system and the power station (interruption was effected by circuit breaker BB₃); c) overvoltage measurements on disconnecting an unloaded section of the line 423 km long between substations nos. 4 and 2 with circuit breaker BB₄; d) overvoltage measurements on disconnecting an unloaded section of line 559 km long between the hydroelectric power station and substation no. 2 by circuit breaker BB₁; e) overvoltage measurements on disconnecting an unloaded section of the line 423 km long between substations nos. 4 and 2 by circuit breaker BB₃. This section was disconnected as part of an unloaded line 982 km long (breaker BB₄ was first opened). In this case the circuit-breaker

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E194/E155

operating conditions were more severe than in tests c and d. Detailed test results are tabulated. During the course of the programme there were cases of disconnecting short-circuits on the line, which occurred during several protective spark gap breakdowns, and also during inter-phase flashover of line insulators during one of the tests. These cases afforded the possibility of checking the reliability of the circuit breakers in disconnecting short-circuits and permitted the following new observations. The overvoltage wave which causes the short-circuit is reflected from the point of the short-circuit with inverted sign and is then doubled on the substation (or power station) busbars if these latter operate under 'dead end' conditions. Dangerous over-voltages then occur on the substation even before disconnection of the short-circuit commences. This circumstance caused additional operations of the protective spark gaps at the hydro-electric station when the protective spark gap operated in no.2 substation (tests on disconnecting unloaded section of 423 km by circuit breaker BB₃) and during interphase flashover of line insulators occurring at the instant of interruption of a line

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Testing of 500 kV air circuit ...

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E194/E155

length of 981 km by circuit breaker BB4. The following conclusions are drawn from the tests. 1) Tests on circuit breaker VVNR-20001-500/2000 were carried out under difficult conditions in respect of recovery voltage (up to $3.85 U_{\text{phase}}$ with $t = 5 - 10$ milliseconds). They showed that the circuit-breaker extinction chambers operate with complete reliability under all the required switching conditions (interruption of synchronous and asynchronous transmission, disconnection of unloaded lines, disconnection of short-circuits, etc) without special resistors shunting the extinction chambers. 2) An electric strength of $2.7 U_{\text{phase}}$ for the circuit breaker disconnecter is insufficient for reliable operation in a 500 kV electrical transmission system and it should be raised to $3.5 U_{\text{phase}}$.

[Abstractor's note: Complete translation.]

Card 5/8

RODIONOV, Ye. A., Cand Med Sci

Dissertation: "Sanitary-Planning Considerations and Requirements for Building and Organizing Farmsteads in Collective Farms of the Middle Belt of the USSR." Central Inst for Advanced Training of Physicians. 11 Feb 47

SO: Vechernyaya Moskva, Feb 1947 (Project #17836)

RODIONOV, YE. A.

29231 Mikroklimaticheskiye usloviya v sborno-shchitovykh finskikh domakh.
Gigiyena i sanitariya, 1949, No 8, s. 13-17

SO: Letopsi' Zhurnal'nykh Statey, Vol. 39. Moskva, 1949

RODIONOV, E. A.

AID P - 2455

Subject : USSR/Medicine

Card 1/1 Pub. 37 - 2/18

Author : Rodionov, E. A., Kand. of Med. Sci.

Title : ~~Some problems of the planning and organization of machine and tractor stations~~

Periodical : Gig. i san., 6, 6-11, Ja 1955

Abstract : This article is based on the author's study of twenty machine and tractor stations, as well as on his analysis of twenty seven projects for their reconstruction. It is an attempt to help the regional medical and epidemiological stations which are hampered by the absence of sanitary rules and hygienic literature dealing with the organization of machine and tractor stations. Two sketches of construction projects.

Institution: Moscow Regional Scientific Research Institute of Sanitation and Hygiene

Submitted : July 3, 1954

ROSTOTSKIY, I.B.; RODIONOV, Ye.A.

"Hospitals (a manual on planning and equipment)." A. IA. Gaisinski and others. Reviewed by I.B. Rostotakii, E.A. Rodionov. Sov. med. 19 no.6:92-95 Je '55. (MLRA 8:9)
(HOSPITALS--CONSTRUCTION) (GALSINSKII, A.IA.)

RODIONOV, Ye.A., kandidat meditsinskikh nauk

Problems of planning and constructing new state grain farms. Gig. i
san. 21 no.4:11-15 Ap '56. (MLBA 9:7)

1. Iz Moskovskogo oblastnogo nauchno-issledovatel'skogo sanitarno-
gigiyenicheskogo instituta.

(AGRICULTURE,

organiz. of state grain farms in Russia (Rus))

RODIONOV, Ye. A.

"Methods for making a sanitary and hygienic study in planning and organizing collective farm villages" by A.IU.IAVNEL'. Reviewed by E.A.Rodionov. Gig. i san. 21 no.11:58-59 N '56. (MLRA 10:2)
(PUBLIC HEALTH, RURAL) (IAVNEL', A.IU.)

L 32816-65 EWT(m)/EPA(s)-2/EPF(c)/T/EWP(j)/EPR Pc-4/Pr-4/Ps-4/Pl-10 WM/RM
 S/0286/65/000/004/0059/0059
 ACCESSION NR: AP5007420

AUTHOR: Kolesnikov, G. S.; Rodionova, Ye. F.; Gavrikova, L. A.; Moiseyev, A. A.;
Akkermantseva, A. P.

TITLE: Method for obtaining self-extinguishing foamed polystyrene.
 Class 39, No. 168426

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 4, 1965, 59

TOPIC TAGS: self extinguishing material, self extinguishing plastic, styrene,
 phosphorus containing polymer, diphenyl vinylphosphonate, foamed plastic

ABSTRACT: An Author Certificate has been issued for a method of obtaining self-
 extinguishing foamed polystyrene. The styrene is first copolymerized with diphen-
 yl vinylphosphonate. The copolymer obtained is then processed into foamed
 plastic by the known method. [BN]

ASSOCIATION: none

SUBMITTED: 02Apr63

ENCL: 00

SUB CODE: MT, OC

NO REF SOV: 000

OTHER: 000

ATD PRESS: 3205

Card 1/1

RODIONOV, Ye.I., inzh.

Correction of oil ejection in hydrogenerators. Elek.sta. 31 no.7:
87-88 J1 '60. (MIRA 13:8)
(Hydraulic turbines)

ALEKSEYEV, V.B., kand.tekhn.nauk, dots.; RODIONOV, Ye.G., inzh.

Installation of uprights by means of the washing out of
soil. Elek.i tepl.tiaga 3 no.7:28 J1 '59. (MIRA 13:3)

(Electric lines--Poles)

(Electric railroads--Wires and wiring)

RODIONOV, Ye. L.

"Heat transfer for laminar water flow in vertical tubes."

report submitted for 2nd All-Union Conf on Heat & Mass Transfer, Minsk, 4-12
May 1964.

Moscow Wood Technology Inst

RODIONOV, Ye.L., inzh.

Criterial heat transfer equation in the establishment of free convection in a forced laminar flow. Teploenergetika 12 no.6: 81-84, Jo '65. (MIRA 18:9)

1. Moskovskiy Iasotekhnicheskii institut.

ROMANENKO, Pavel Nikanorovich, prof.; MOROZOV, Aleksandr Viktorovich,
dots. Prinsipal uchastiye RODIONOV, Ye.L., inzh.; PITERMAN,
Ye.L., red.izd-va; KARLOVA, G.L., tekhn. red.

[Arrangement and design of boiler units for industrial
boiler rooms]. *Komponovka i raschet kotloagregatov
promyshlennykh kotel'nykh. Moskva, Goslesbizdat,*
1963. 307 p. (MIRA 17:2)

RODIONOV, Ye.M., inzhener.

Resultant torque of radial ball bearings used in instruments.
Trudy MATI no.33:109-127 '57. (MIRA 10:10)
(Ball bearings)

26539
S/536/59/000/040/003/005
E191/E481

13.2000

AUTHOR: Rodionov, Ye.M., Candidate of Technical Sciences
TITLE: The effect of manufacturing factors on the accuracy of sensing systems in compass transmitters
PERIODICAL: Moscow. Aviatsionnyy tekhnologicheskii institut. Trudy. No.40. 1959. Voprosy tekhnologii priborostroyeniya, pp.71-86
TEXT: The deviation and dynamic errors of the magnetic compass transmitter are fundamental errors even of the ideal compass and have been studied for many years. The present paper deals with the errors found only in a real compass. These are sub-divided into two major groups, namely (1) errors due to inaccuracies in components and assemblies including clearances in the gimbal hinges and scale reading inaccuracies and (2) delay errors due to friction in the cartridge and gimbal bearings. The first group includes the sub-groups of (a) scale errors, (b) errors of the sensing system and (c) equivalent bearing errors. The second group includes the sub-groups of (a) delay due to friction in the cartridge bearing, (b) delay due to friction in the gimbal
Card 1/5

The effect of manufacturing ...

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E191/E481

bearing and (c) delay due to friction in the remote transmitter. To determine the effect of these errors, the conditions of static equilibrium of the cartridge in a real compass are considered. A system of equations is set up stating the conditions of static equilibrium in terms of the significant primary errors in the cartridge and the gimbal suspension. The assumption of small errors and small deviations of the cartridge axis from the vertical yields an approximate solution in which the error of the real compass is stated as a function, under static conditions, of the primary errors and the course. Analysis has shown that the angles of deviation of the cartridge axis from the vertical due to the primary errors of the gimbal suspension are independent of the course. Certain primary errors have no significant effect on the deviations, for example the out-of-true between the cartridge axis and the inner frame hinge axis. A chart plane familiar from gyroscopic theory is used for a graphic display of the behaviour of the cartridge axis when the course is changed. This chart is the intersection of the cartridge axis with a horizontal plane at a unit distance from the centre of suspension. The deviation of the intersection point from the vertical point of the ideal compass is

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The effect of manufacturing ...

discussed in terms of this circular chart as a function of some of the inaccuracies enumerated earlier. A special compass model was tested to verify the analysis concerning the behaviour of an imperfectly balanced compass. The theoretical trajectory and experimental points are shown to agree. The error of the sensing system is analysed as a sum of several terms due to the primary errors of the sensing system, the friction in the cartridge bearings, the friction of the sliding contacts in the transmitter and the errors in the compass ball-bearing. The analysis supported by experiments with a special model incorporating pre-set unbalance values and other errors yields several conclusions. If the cartridge only is balanced in the manufacture of the compass then the error of the sensing system is independent of several primary inaccuracies (within limits), namely the displacement and skew angle of the magnets in relation to the axis of rotation of the cartridge, the difference in the magnetic characteristics of magnet pairs, the out-of-true and out-of-plane between the axes of the gimbal, the deviation of the axes of the external frame from the horizontal and the out-of-true between the cartridge and inner Card 3/5

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E191/E481

The effect of manufacturing ...

frame axes. This is in part due to the fact that these inaccuracies are normally held within very close tolerances. If so, the compass error is affected by the amount of residual unbalance of the cartridge, the displacement between the centre of gravity of the inner frame from the intersection of the gimbal axes, the displacement of the cartridge axis from the intersection of the gimbal axes, the displacement of the centre of gravity of the gimbal from its axis of rotation and the axial clearance in the inner frame hinges. These inaccuracies do not receive, as a rule, the attention they deserve. If both the cartridge and the inner frame are balanced in the manufacture of the compass, then the compass error is affected only by the amounts of the residual unbalances of the inner frame and the cartridge and all the primary errors considered here have no practical significance. The instrument error of the real sensing system has mainly a semi-circular pattern. The need to mass balance the inner frame as well as the cartridge is the most important result of the present analysis. I.P.Beloventsyy, I.P.Kolongo, A.N.Krylov, Academician N.G.Bruevich and Professor N.A.Kalashnikov are mentioned in the article for their contributions in

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The effect of manufacturing ...
this field. There are 4 figures.

20535
S/536/59/000/040/003/005
E191/E481

Card 5/5

RODIONOV, Ye.M., kand.tekhn.nauk

Errors of wire potentiometers caused by coil excess. Trudy MATI
no.47:17-22 '60. (MIRA 14:2)
(Potentiometer--Testing)

37151
S/536/61/000/052/003/008
D201/D301

13.2520

AUTHOR: Rodionov, Ye.M., Candidate of Technical Sciences

TITLE: Gyroscopic drift induced by friction in the Cardan ball-bearings and reduction of this drift by means of rotating bearings

SOURCE: Moscow. Aviatsionnyy tekhnologicheskii institut. Trudy, no. 52, 1961. Nekotoryye voprosy sovremennoy tekhnologii priborostroyeniya, 33 - 44

TEXT: The author gives a detailed analysis of a non-stationary gyroscopic drift, due to the moments opposing the rotation of Cardan ball-bearings and suggests the means of reducing this drift by applying oscillating rotations of the external rings of Cardan bearings. It is shown that this opposing moment is by no means constant and that it consists of the sum of the friction moment M_{fr} and of the active moment M_a , resulting from consecutive displacement of the outer bearing ring. While M_{fr} could be easily determined, accurate analytical determination of M_a was found impossible because of random displacement of the rings. Card 1/3

Gyroscopic drift induced by friction ... S/536/61/000/052/003/008
D201/D301

dom errors in the bearing and component parts dimensions. The terms determining M_a , however, have been ascertained for some particular cases, e.g. for M_a induced by the radial gap in radial bearings and the ellipticity of rings and balls. These components which result in a periodicity of M_a , have been evaluated experimentally and the results of analysis of the obtained resulting graph used to analyze the movement of a simple astatic gyroscope with three degrees of freedom, fixed on a rotating platform. The results have shown the applicability of oscillating and rotating horizontal ball-bearings for reduction of the resulting gyroscope drift. The use of oscillating bearings reduced gyroscope drift considerably, although the amplitude of these oscillations has to be considerable to be effective. The rotation of external bearing rings, in one direction or the other, results in an increase of angular velocity of all harmonics and reduces sharply the amplitude of gyroscope oscillation around the y-axis. Reduction of this drift can be determined analytically and e.g. for the analyzed case the resultant residual gyroscope drift did not exceed 0.01° per hour at harmonic oscillation of 30 r.p.m. The usual low efficiency of oscillating bearing is thought to be due to the fact that in practice no damping of active resis-

Card 2/3

Gyroscopic drift induced by friction ... S/536/61/000/052/003/008
D201/D301

tance action of bearings on the gyroscope is attempted. There are
3 figures.

Card 3/3

L 7017-65 EWT(d)/EWT(1)/EWT(m)/EFF(c)/EPR/T/EWP(q)/EWP(b) Pg-4/Pk-4/P1-4/Po-4/
Pq-4/Pr-4/PS-4 ARWL/ASD(a)-5/ASD(d)/AFETR/AFMDG/SSD/BSO/RAEM(a)/ESD(t) DJ/JD

ACCESSION NR: AT4046036

S/2536/64/000/059/0054/0073

AUTHOR: Rodionov, Ye. M. (Candidate of technical sciences) B

TITLE: Moments arising from defects in the shape of the rolling surface of a ball bearing

SOURCE: Moscow. Aviatsionnyy tekhnologicheskiy institut. Trudy*, no. 59, 1964.
Tekhnologiya i konstruirovaniye giropriborov (Technology and design of gyroscopic
instruments), 54-73

TOPIC TAGS: aircraft instrumentation, gyroscope, ball bearing, ball bearing defect,
friction, ball bearing rotation, gyroscope drift 17 16

ABSTRACT: The paper proposes, in a general form, a method for determining the
translational displacements and additional moments of friction affecting rotation in ball
bearings which are produced by translational motion (in addition to the vibration of fast
moving shafts) of the rotating ring due to defects in the shape of the rolling surfaces of
rings and balls, as well as to the presence of a radial clearance, a bearing stiffness
which varies with the angle of rotation, and other causes. These additional moments re-
sisting the rotation of a ball bearing vary with the angle of rotation and, in contrast to
the moments due to frictional forces, do not change their sign when reversing the bearing

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L 7017-65

ACCESSION NR: AT4046036

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motion and do not decrease with vibration. The magnitude and character of the variation in these moments with the angle of rotation is closely related to the initial relative position of bearing parts as well as to the positions of balls as a result of vibration, clogging up, etc., and therefore these moments change when the relative position of the rings changes. The instability of the additional moments causes random errors in instruments, and unstable drift of gyroscopes which cannot be eliminated by balancing or correction. The translational displacements of the rotating ring and the additional moments are examined analytically for the case of an actual ball bearing. Expressions are obtained which make it possible to investigate separately the additional moments which are either due only to the presence of radial clearance in the bearing or due only to the oval shape of the internal ring and the balls. Formulas for the additional moments in a radial bearing resulting from the oval shape of the internal (rotary) ring, the oval shape of the outer (stationary) ring, the oval shape of the balls, and the presence of a radial clearance and variable radial stiffness of a bearing, are derived and applied to a specific case. Orig. art. has: 84 formulas, and 4 figures.

ASSOCIATION: Moskovskiy aviatsionnyy tekhnologicheskiy institut (Moscow Institute of Aviation Technology)

Card ^{2/3}

RODIONOV, Ye.M., kand. tekhn. nauk

Moments caused by the error in the shape of rolling surfaces of
a ball bearing. Trudy MATI no. 59:54-73 '64.

(MIRA 17:10)

L 44287-66 EWT(m)/EWP(j)/T IJP(c) WW/RM

ACC NR: AP6011235 (A) SOURCE CODE: UR/0413/66/000/006/0075/0075

INVENTOR: Kolesnikov, G. S.; Rodionova, Ye. F.; Levin, B. B.; Fetin, I. N. ³⁹_B

ORG: none

TITLE: Method of obtaining phosphorus-containing copolymers. Class 39,

No. 179922 /₁₂

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 6, 1966, 75

TOPIC TAGS: copolymer, copolymerization, styrene, organic phosphorus compound

ABSTRACT: An Author Certificate has been issued for a method of obtaining phosphorus-containing copolymers by copolymerization of styrene with unsaturated organophosphorus compounds in block or solution at temperatures of 50 to 120C in the presence of a dinitrile azoizobutyric acid as the initiator. To increase the variety of unsaturated organophosphorus compounds, α -phenyvinylphosphinic acid is used as the initiator. [NT]

SUB CODE: 11,07/SUBM DATE: 18Jun63/

Card 1/1 mjs

UDC: 678.85:678.746.22.547.341

S/089/62/013/005/010/012
B102/B104

AUTHORS: Karpacheva, S. M., Rodionov, Ye. P.

TITLE: Peculiarities in the distribution of extracted substances
in the washing portion of extraction-washing apparatus

PERIODICAL: Atomnaya energiya, v. 13, no. 5, 1962, 486-491

TEXT: The characteristics of substance distribution in the washing zone of the extraction apparatus were calculated using the results obtained by A. M. Rozen et al. (Atomnaya energiya, 7, no. 3, 277, 1959; Zh. neorganich. khim. II, no. 8, 1959, 1957; 4, no. 5, 1210, 1959; Radiokhimiya, 2, no. 1, 13, 1960; 4, no. 6, 1962). The isotherms of the equilibrium distribution of HNO_3 between aqueous uranyl nitrate solutions and a 20% tributylphosphate solution in kerosene (extracting agent) were calculated for various concentrations of HNO_3 in the aqueous and in the organic phases, respectively. The acid concentration in the TBPh-solution decreases strongly when the uranyl nitrate concentration in the aqueous and organic phases is slightly reduced. The washing conditions in the

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S/089/62/013/005/010/012

B102/B104

Peculiarities in the distribution ...

extraction-washing column depend on the flux ratio n of organic and aqueous phases. The effect of this ratio in the extraction zone on the HNO_3 contents in aqueous and organic phases in the washing zone, and on the uranyl nitrate content in the aqueous phase of the washing zone, are determined and the effect of acid distribution over the column is investigated. Also the distribution of microelements, especially plutonium (Fig 3), is determined. The Pu distribution coefficient changes for the five stages M shown in Fig. 3 as 0.42, 0.32, 0.26, 0.2, 0.30, i. e. in the upper section of the column Pu is re-extracted. Using formulas from Atomnaya energiya 7, no. 3, 277, 1959, a method of calculating the element distribution in the washing zone is given. For the nitric acid content in the organic phase in the extraction zone

$$y_{\text{ex}}^{\text{H}} \approx 0.14 \left[1 + 0.02(x_{\text{N}}^{\text{U}}/100)^3 \right] \eta - 0.059/x_{\text{N}}^{\text{H}} \text{ mole/l}$$

is obtained for 20% TBPh solution as extracting agent. $\eta = n_{\text{ex}}/n_{\text{ex}}^{\text{lim}}$,

x_{N}^{U} and x_{N}^{H} are the uranyl nitrate and acid concentrations in the aqueous

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Peculiarities in the distribution ... S/089/62/013/005/010/012
B102/B104

solution of the extraction zone. A method of determining graphically the number of stages for U and HNO_3 is demonstrated. There are 5 figures.

SUBMITTED: September 11, 1961

Fig. 3. Distributions of uranyl nitrate (curve 1, abscissa x^U , g/l), HNO_3 (curve 2, abscissa x^H , n) and Pu (curve 3, x_{Pu} , %) in the aqueous phase of the washing zone in the extraction column for M=5.

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Peculiarities in the distribution ...

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B102/B104

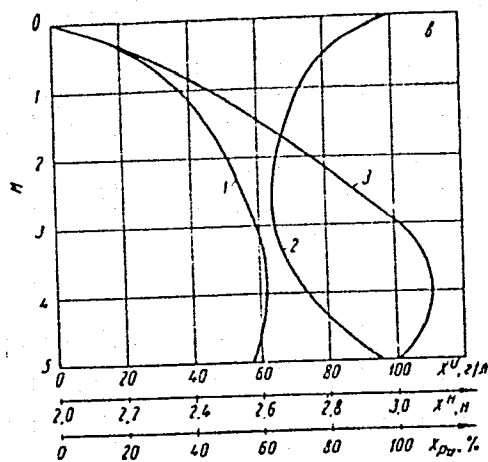


Fig. 3

Card 4/4

ROZEN, A.M.; KARPACHEVA, S.M.; MEDVEDEV, S.F.; RODIONOV, Ye.P.; KISELEVA, L.F.

Mass transfer in the extraction and reextraction of uranyl nitrate
in packed columns. Ekstr.; teor., prim., app. no. 2:284-293 '62.
(MIRA 15:9)

(Uranyl nitrate) (Extraction (Chemistry))
(Mass transfer)

KARPACHEVA, S.M.; RODIONOV, Ye.P.

Characteristics of the distribution of extracted substances
in the washing part of a mix-and-settle extractor. Atom.
energ. 13 no.5:486-491 N '62. (MIRA 15:11)
(Extraction apparatus)

RODIONOV, Ye.P.

RODIONOV, Ye.P.; GLUKHOV, N.A.; ZNAMENSKIY, A.A., redaktor; YAKOBSON, M.O.,
redaktor.

[Surface finish and apparatus for rating it] Chistota poverkhnosti
i pribory dlia ee otsenki. Moskva, Trudrezervizdat, 1953. 41 p.
(Surfaces (Technology)) (MLRA 7:8)

RODIONOV, Yevgeniy Pavlovich; PUSH, V.B., nauchnyy redaktor; KONTSEVAYA,
~~E.M.~~, redaktor; KUZ'MIN, D.G., tekhnicheskiiy redaktor

[Lathes] Tokarnye stanki. Moskva, Vses. uchebno-pedagog. izd-vo
Trudrezervizdat, 1956. 102 p. (MLR 9:8)
(Lathes)

ROZEN, A.M.; KARPACHEVA, S.M.; MEDVEDEV, S.F.; RODIONOV, Ye.P.; KISELEVA, L.F.

Investigating mass transfer in packed columns during extraction by means of tributyl phosphate (extraction and reextraction of nitric acid). Khim.prom. no.7:627-630 O-N '59. (MIRA 13:5)
(Packed towers) (Mass transfer)

KARPACHEVA, S.M.; RODIONOV, Ye.P.; POPOVA, G.M.

Comparing the effectiveness of extraction by means of pulse
packed columns with continuous aqueous and organic phases.
Khim. prom. no. 6:496-499 S '60. (MIRA 13:11)
(Extraction (Chemistry)) (Packed towers)

RODIONOV, Yevgeniy Pavlovich; KATS, B.G., nauchnyy red.; ROMANOV, B.V.,
red.; ~~PERSON~~, M.N., tekhn.red.

[Lathes; album] Tokarnye stanki; al'bom. Moskva, Vses.uchebno-
pedagog.isd-vo Proftekhizdat, 1960. 105 p.

(MIRA 14:4)

(Lathes)

RODIONOV, Ya.S.

Possibilities for the simulation of surface waves. Izv.vys.
ucheb.zav.; radiofiz. 1 no.4:160-162 '58. (MIRA 12:5)
(Radio waves)

DVINSKIY, E.; ZUBCHENKOV, P.; RODIGNOV, Yu., red.

[Moscow; a photoalbum] Moskva; fotoal'bom. Moskva, Mosk.
rabochii, 1963. 1 v. (MIRA 16:7)
(Moscow--Views)

RODIONOV, Yu., red.; LIL'YE, A., tekhn.red.

[Through Moscow; a concise guidebook] Po Moskve; kratkii
putevoditel'. Izd.2. perer. Mosk.rabochii, 1958. 638 p.
(Moscow--Description--Guidebooks) (MIRA 11:12)

RODIONOV, Yu., redaktor; IGNAT'YEVA, A., tekhnicheskii redaktor.

[Moscow footwear] Moskovskaya obuv'. [Moskva] Moskovskii rabochii,
1954. 69 p. (MLA 8:1)

(Moscow--Shoe industry)

[Walks in the vicinity of Moscow; concise manual] Progulki po Podmoskov'iu; kratkii spravochnik. [Moskva] Moskovskii rabochii, 1957. 180 p. (MLRA 10:9)
(Moscow Province--Description and travel)

S/048/60/024/03/02/019
B006/B014

AUTHORS: Baranov, S. A., Polevoy, R. M., Rodionov, Yu. F., Shishkin, G. V., Shubko, V. M.

TITLE: Investigation of the Radioactive Decay of Th²³¹ 19 19

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960,
Vol. 24, No. 3, pp. 261-271

TEXT: The article under review was read at the Ninth All-Union Conference on Nuclear Spectroscopy (Khar'kov, January 26 - February 2, 1959). Th²³¹ is a well-known β -emitter with a half-life of 25.6 hours; numerous investigations of the level scheme have already been conducted. The authors were stimulated to further investigations by the fact that a level scheme deviating from Ref. 5 had been published in Ref. 4. The sample was obtained by bombarding Th²³⁰ with slow neutrons in the RFT reactor. The subsequent chemical treatment of the sample is described in the introduction. Numerous details concerning measurements of the electron spectrum are reproduced in the 2nd section. Fig. 1 shows the most

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Card 1/3

Investigation of the Radioactive Decay of
Th²³¹

S/048/60/024/02/02/010
B006/B014

interesting part of the electron spectrum in the region of from 150 to 1,100 gauss.cm. γ -Spectrometric measurements are described in the 3rd section. Fig. 2 shows the spectrum of X-ray and soft γ -radiation of Pa²³¹ taken by means of proportional counters that were filled with heavy gases. Measurements showed among other things that the most intense γ -rays with 25.6 and 84.1 kev do not occur in a cascade, that the 26-kev quanta coincide with the 58-, 95-, 145-, 163-, and 218-kev quanta, but not the 250-kev quanta with the more intense 26- and 84-kev quanta. The 4th section deals with the determination of the multipolarities of certain γ -transitions, and the 5th section with details of the Pa²³¹ level scheme. The bulky numerical material yielded by the investigations is clearly compiled in tables. Table 1, which extends over 3.5 pages, offers an interpretation of the electron lines occurring in the

Th²³¹ β -, Pa²³¹ decay, Table 2 supplies data of the energy of γ -transitions of the Pa²³¹ nucleus, and Table 3 provides the absolute and relative conversion coefficients for the γ -rays of Pa²³¹. Fig. 3 shows the level scheme as it proceeds from results of measurements. This scheme agrees with that obtained by Nilsson from at least the qualitative side, ✓B

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Investigation of the Radioactive Decay of
Th²³¹

S/048/60/024/03/02/019
B006/B014

but is not in agreement with those published in Refs. 4 and 5. The authors finally thank P. E. Nemirovskiy for discussing results. There are 3 figures, 3 tables, and 16 references, 3 of which are Soviet.

✓B

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BARANOV, S.A.; KULAKOV, V.M.; SAMOYLOV, P.S.; ZELENKOV, A.G.;
RODIONOV, Yu.F.; PIROZHKOV, S.V.

Fine structure of α -radiation from Pa^{231} and energy level scheme
of the Ac^{227} nucleus. Zhur. eksp. i teor. fiz. 41 no.5:1475-1483
N '61. (MIRA 14:12)

(Protactinium--Decay)
(Actinium) (Quantum theory)

31769
S/056/61/041/006/008/054
B108/B138

24.6400

AUTHORS: Baranov, S. A., Kulakov, V. M., Samoylov, P. S.,
Zelenkov, A. G., Rodionov, Yu. F.

TITLE: The radioactive decay of Np^{237}

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 41,
no. 6(12), 1961, 1733-1739

TEXT: The authors studied the radioactive decay of Np^{237} by means of magnetic double-focusing α - and β -spectrometers, spectrometric proportional counters, scintillation spectrometers, and other device described in previous papers (e.g. P. S. Samoylov, PTE, 6, 33, 1959). The α -spectrum from Np^{237} is highly complex, consisting of 20 monoenergetic lines (Table 1). The resolution of the β -spectrum was rather poor owing to the low activity and thickness of the source. Data on new γ -transitions for Pa^{233} as determined from the electron and gamma spectra are given in Table 2. An energy level scheme for Pa^{233} is constructed on the basis of

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The radioactive decay of Np^{237}

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S/056/61/041/006/008/054
B:08/B138

the data obtained (Fig. 2) which is not, however, regarded as complete. The authors thank S. N. Belen'kom, K. I. Merkulova, A. A. Arutyunov, Yu. I. Dmitriyev, and the student at MIFI, Yu. I. Filenko for help as well as G. I. Khlebnikov for the radiochemical purification of

Np^{237} . There are 2 figures, 2 tables, and 24 references: 6 Soviet and 18 non-Soviet. The four most recent references to English-language publications read as follows: D. Strominger, J. M. Hollander, UCRL-8289, Berkeley, California, 1958; F. Stephens et al. Phys. Rev. 113, 212, 1959; J. Hubbs, J. Winick, Bull. Am. Phys. Soc. 11, 319, 1958; J. Hamilton et al. UCRL-9438, Berkeley, California, 1960.

SUBMITTED: June 21, 1961

Legend to Table 1: (1) forbiddenness factor, (2) level energy, kev

* $\text{Sum } J_{13} + J_{14} + J_Z = 2.179$. ** Sum of three lines $\alpha_x + \alpha_y + \alpha_{15}$

Legend to Table 2: γ -transition energies (kev) of Pa^{233} obtained with

(1) β -spectrometer, (2) proportional counter, (3) γ -spectrometer
(4) multipolarity

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BARANOV, S.A.; SAMOYLOV, P.S.; RODIONOV, Yu.F.; BELEN'KIY, S.N.; PIROZHKOV, S.V.

Energy levels of the U^{232} nucleus. Zhur. eksp. i teor. fiz. 41
no.6:1740-1747 D '61. (MIRA 15:1)
(Uranium--Isotopes) (Quantum theory)

UR/0120/66/000/002/0055/0059 .

ACC NR: AP6013493

AUTHOR: Maximov, Yu.S.; Rodionov, Yu.P.; Yavlinskiy, Yu.N.

ORG: Atomic Energy Institute GKAE, Moscow (Institut atomnoy energii GKAE)

TITLE: Semiconductor counters of charged particles, from high resistance n-type conductivity silicone

SOURCE: Pribery i tekhnika eksperimenta, no. 2, 1966, 55-59

TOPIC TAGS: alpha particle, alpha particle detector, alpha ~~particle~~ spectroscopy, alpha spectra, analyzer sorter/ AI-100-1 analyzer sorter

ABSTRACT: Charged particle energy measuring detectors of high resistance n-type silicone are described. The conductivity impulse of a charged particle arrival, creating electron/hole pairs, is discussed. Preparation of the surface barrier detector is described. Tests showed the detector resolving power to be between 1% and 3% of alpha particle energies around 6 Mev. A semiconductor alpha spectrometer is described, combining a detector with a preamplifier, amplifier and expander. The resulting spectra were registered by the printing analyzer sorter AI-100-1. The spectrometer characteristics remained stable for over a year of operation. The instrument proved to be convenient and fast. Samples of alpha spectra are shown. Authors thank S.A. Baranov for his interest and V.S. Shiryayev for assembly and tuning of the system. Orig. art. has: 7 figures.

SUB CODE: 20/
Card 1/1

SUBM DATE: 17Mar65

ORIG REF: 006

OTH REF: 003

UDC: 539.1.074.5

RODIONOV, Yu.F., inzh.; SHIK, L.S., inzh.

Removal of the rotor pole of the KSV-37500-11 synchronous compensator
without dismantling the rotor. Energetik 12 no.5:31-32 My '64.
(MIRA 17:6)

RODIONOV, Yu.F., inzh.; SHIK, L.S., inzh.

Removal of the rotor pole of the KSV-37500-11 synchronous compensator without dismantling the rotor. Energetik 12 no.5:31-32 My '64.
(MIRA 17:6)

KYUNS, S.A., inzh.; RODIONOV, Yu.I., inzh.

Meeting on the use of overall automation and new electric
drive systems for increasing the productivity of metallurgical
plants. Vest. elektroprom. 31 no.8:77-79 Ag '60. (MIRA 15:5)

(Metallurgical plants--Congresses)

(Automatic control) ~~---~~ (Electric driving)

L 4237-66 EWT(m)/EPA(w)-2/EWA(m)-2 IJP(c) OS
 S/0000/64/000/000/1065/1072 51
 BT/

ACCESSION NR: AT5007979
 AUTHOR: Abramyan, Ye. A.; Bander, I. Ye.; Bondarenko, L. N.; Budker, G. I.;
 Glagolev, G. B.; Kadymov, A. Kh.; Meshkov, I. N.; Naumov, A. A.; Pal'chikov, V.
 Ye.; Panasyuk, V. S.; Popov, S. G.; Protopopov, I. Ya.; Rodionov, Yu. I.;
 Samoylov, I. M.; Skrin'skiy, A. N.; Yudin, L. I.; Kon'kov, N. G.; Mostovoy, Yu. A.;
 Nezhevenko, O. A.; Ostrevko, G. N.; Petrov, V. V.; Sokolov, A. A.; Timoshin, I. Ya.

TITLE: Work on the strong-current accelerators of the Nuclear Physics Institute,
 SO AN SSSR. (I) Strong-current pulse accelerators with spiral storage of the elec-
 trons. (II) Strong-current accelerators with one-revolution capture of the in-
 jected electrons

SOURCE: International Conference on High Energy Accelerators. Dubna, 1963. Trudy.
 Moscow, Atomizdat, 1964, 1065-1072

TOPIC TAGS: high energy accelerator, electron accelerator, electron beam, betatron,
 plasma

ABSTRACT: The work on developing strong-current electron ring accelerators
 was begun in 1965 by the authors at the Nuclear Physics Institute, Siberian Depart-
 ment, Academy of Sciences SSSR, with the object of studying the possibility of

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ACCESSION NR: AT5007979

forming relativistic stabilized beams. In the laboratories of the Institute experimental studies were carried out on the four methods for obtaining large ring currents of relativistic electrons: (1) spiral method of storing the electrons in installations of the betatron type with subsequent betatron synchrotron acceleration (Budker G. I. CERN Symposium 1, 68 (1956)); (2) obtaining of limiting electron currents by means of the injection of electrons from a strong-current linear accelerator into a ring chamber of large aperture with subsequent synchrotron acceleration; (3) storage of electrons in tracks (parking orbits) with constant magnetic field by means of the multiple injection of electrons from another less strong-current accelerator; this method is utilized for the storage of electrons and positrons in experiments with colliding beams (expounded in detail by G. I. Budker in the present collection, p. 274); (4) obtaining of large electron currents by means of the acceleration of electrons by a ring plasma. The present report discusses the first two methods under the following topics: (I) pulsed iron-less betatron with preliminary charge storage (B-2 device); strong-current pulsed synchrotron B-2S; pulsed strong-current betatron with spiral storage (B-3 device). (II) iron-less one-turn strong-current synchrotron (SSB); strong-current pulsed synchrotron B-3M. Orig. art. has: 7 figures.

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ASSOCIATION: Institut yadernoy fiziki SO AN SSSR (Nuclear Physics Institute,
SO AN SSSR)

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ENCL: 00

SUB CODE: NP.

NO REF SOV: 001

OTHER: 001

Ch
Card 3/3

RODIONOV, Yu.I.; KLOKMAN, V.R.

Effect of a diluent on the solubility of metallic cadmium in
fused cadmium chloride - alkali metal chlorides. Radiokhimiia
7 no.2:159-166 '65. (MIRA 18:6)